

DOCKETED

Docket Number:	13-AFC-01
Project Title:	Alamitos Energy Center
TN #:	211997
Document Title:	Email Regarding AES AEC Inversion Break-Up Modeling
Description:	N/A
Filer:	Jerry Salamy
Organization:	CH2M HILL
Submitter Role:	Applicant Consultant
Submission Date:	6/28/2016 10:28:27 AM
Docketed Date:	6/28/2016

From: Salamy, Jerry/SAC
To: ["Melissa Sheffer"](#)
Cc: [Vicky Lee](#); [Engel, Elyse/SJC](#); [Beattie, Benjamin/SAC](#)
Subject: RE: AES Alamitos - Inversion Break-Up
Date: Monday, May 02, 2016 12:07:00 PM
Attachments: [Modeling_Files.zip](#)
[AEC Fumigation Summary_05022016.xlsx](#)

Hi Melissa,

Attached are the revised AERSCREEN modeling files and an Excel table. We would like to discuss some of your comments (below) if you are available for a short conference call tomorrow (May 3rd) at 10:30 am. If this time doesn't work, we are open anytime tomorrow until about 1 pm. I can send out an MS Outlook invite with a conference call in number once we decide on a time.

After we have a chance to discuss the AERSCREEN methodology, we will formally submit the results to the District and the California Energy Commission.

Thanks,

Jerry Salamy
Principal Project Manager
CH2M HILL
2485 Natomas Park Drive, Suite 600
Sacramento, CA 95833
Office Phone: 916.286.0207
Cell Phone: 916.769.8919

From: Melissa Sheffer [mailto:msheffer@aqmd.gov]
Sent: Thursday, April 28, 2016 6:22 PM
To: Salamy, Jerry/SAC <Jerry.Salamy@CH2M.com>
Cc: Vicky Lee <VLee1@aqmd.gov>; Engel, Elyse/SJC <Elyse.Engel@ch2m.com>; Beattie, Benjamin/SAC <Benjamin.Beattie@CH2M.com>; Jillian Wong <jwong1@aqmd.gov>; Ian MacMillan <imacmillan@aqmd.gov>; John Yee <JYee@aqmd.gov>; Andrew Lee <ALee@aqmd.gov>
Subject: AES Alamitos - Inversion Break-Up

Jerry,

As I was reviewing the AERSCREEN runs that were conducted to examine the shoreline fumigation and inversion break-up impacts, I noticed that inversion break-up was not turned in the model. However, it is stated in the revised application that this was examined. Please re-run AERSCREEN to include inversion break-up and provide the files and results from those runs. Also, please include the simple cycle turbines in your runs, as they were not included in the shoreline fumigation runs.

One thing I noticed in the AERSCREEN files is that the ambient distance was not the fenceline distance, instead it was to the shoreline distance. Please use the actual fenceline distance from the

source. For the surface characteristics in the meteorological section, please use the surface characteristics associated with the Long Beach station (albedo = 0.18, Bowen ratio = 1.0, and surface roughness = 0.504) in the runs.

Thank you, and let me know if you have any questions.

Melissa Sheffer
Air Quality Specialist
South Coast Air Quality Management District
21865 Copley Dr., Diamond Bar, CA 91765
Office: 909-396-2346
msheffer@aqmd.gov

Alamitos Energy Center
 Inversion Break-up Fumigation Analysis
 May 2016

AERSCREEN Outputs for Inversion Break-Up Fumigation Impact Analysis for Unit Emissions

1 g/s AERSCREEN Run	Inversion Break-up				Distance (meters)
	Maximum 1-hour Concentration ($\mu\text{g}/\text{m}^3$)	Maximum 3-hour Concentration ($\mu\text{g}/\text{m}^3$)	Maximum 8-hour Concentration ($\mu\text{g}/\text{m}^3$)	Maximum 24-hour Concentration ($\mu\text{g}/\text{m}^3$)	
7FA_S02	3.585	3.585	3.227	2.151	4937.99
7FA_S03	4.549	4.549	4.094	2.73	4107.54
7FA_S06	3.764	3.764	3.387	2.258	4756.65
7FA_S07	4.654	4.654	4.188	2.792	4036.03
LMS_S01	1.117	1.117	1.005	0.6703	13942.68
LMS_S03	1.447	1.447	1.302	0.868	11516.46
LMS_S05	1.121	1.121	1.009	0.6724	13910.26
LMS_S07	1.461	1.461	1.314	0.8763	11435.69
AUXBOIL	24.4	24.4	21.96	14.64	1416.63

AERSCREEN Inversion Break-Up Fumigation Impact Analysis Emissions and Results

Pollutant	Averaging Time	Worst-Case CCGT Scenario	Worst-Case SCGT Scenario	CCGT Emission Rate (g/s)	SCGT Emission Rate (g/s)	Auxiliary Boiler Emission Rate (g/s)	AERSCREEN Fumigation Result ($\mu\text{g}/\text{m}^3$)	Background Concentration ($\mu\text{g}/\text{m}^3$)	Total Predicted Concentration ($\mu\text{g}/\text{m}^3$)	CAAQS ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)
NO ₂	1-hour (max)	7FA_S03	LMS_S03	7.69	2.67	0.054	86.7	170	257	339	-
SO ₂	1-hour (max)	7FA_S02	LMS_S01	0.48	0.20	0.018	4.83	105	110	655	-
	3-hour	7FA_S06	LMS_S05	0.47	0.20	0.018	4.88	105	110	-	1,300
	24-hour	7FA_S06	LMS_S05	0.47	0.20	0.0057	2.75	15.7	18.4	105	-
CO	1-hour (max)	7FA_S03	LMS_S03	41.0	5.66	0.36	414	3,666	4,080	23,000	40,000
	8-hour	7FA_S03	LMS_S03	14.9	1.89	0.30	138	2,979	3,117	10,000	10,000
PM ₁₀	24-hour	7FA_S07	LMS_S07	1.07	0.79	0.020	9.03	54.0	63.0	50	150